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In re Application of:
Canne, L., *et al.*

Serial No.: **To be Provided**

Filed: Herewith

Title: **Solid Phase Native Chemical Ligation of Unprotected or N-Terminal Cysteine Protected Peptides in Aqueous Solution**

Examiner:

Art Unit:

Atty Dkt. No.: **3504.284B**

INFORMATION DISCLOSURE STATEMENT PURSUANT TO 37 CFR §§ 1.197(b)(1) AND 1.56

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

In accordance with 37 CFR §§ 1.97 and 1.56, Applicant herewith submits the following Information Disclosure Statement. Copies of all cited documents can be found in the file history of the parent of U.S. Patent Application Serial No. 09/097,094.

This Information Disclosure Statement is being submitted within 3 months of the filing date of the present application. Accordingly, no fee is required for its consideration and for the consideration of the cited documents. The cited documents are:

AL1 WO 96/34878

AM1 WO 98/28434

AR1 Aimoto, "Synthesis of Phosphorylated Calmodulin-binding Site of Ca2+/Calmodulin-dependent Protein Kinase IICAMII by a Thioester Method," *Chemical Abstracts*, Vol. 125, No. 1, Abstract No. 11415, (1996).

AS1 Akaji, *et al.*, "Stiudies On Peptides. CXXVII. Synthesis Of A Tripentacontapeptide With Epidermal Growth Factor Activity," *Chem. Pharma. Bull.* (Tokyo) 33:184-102 (1985).

AT1 Atherton, *et al.*, "Solid Phase Fragment Condensation – The Problems," *In Innovation and Perspective In Solid Phase Synthesis*, R. Epton, *et al.* Eds., pages 11-25 (1990).

AR2 Ball, *et al.*, "Affinity Purification Of 101 Residue Rat Cpn 10 Using A Reversibe Biotinylated Probe," *J. Pept. Sci.*, 1:288-294 (1995).

AS2 Blake, "Total Synthesis Of S-Carbamoylmethyl Bovine Apocytochrome C By Segment Coupling," *Int. J. Pept. Potein Res.*, 27:191-200 (1986).

AT2 Canne, *et al.*, "Synthesis Of Versatile Purification Handle For Use With Boc Chemistry Solid Phase Peptide Synthesis," *Tetrahedron Letters*, 38(19):3361-3364 (1997).

AR3 Canne, "Extending the Applicability of Native Chemical Ligation," *J. Am. Che. Soc.*, Vol. 118:5891-5896 (1996).

AS3 Canne, "A General Method For The Synthesis Of Thioester Resin Linkers For Use In The Solid Phase Synthesis Of Peptide-α-Thioacids," *Tetrahedron Letters*, 36(8):1217-1220 (1995).

AT3 Cheng, *et al.*, " Chemical Synthesis Of Human β-Endorphin(1-27) Analogs By Peptide Segment Coupling," *Int. J. Pept. Prot. Res.*, 38:70-78 (1991).

AR4 Dawson, *et al.*, " Synthesis Of Proteins By Native Chemical Ligation," *Science*, 266:766-799 (1994).

AS4 Funakoshi, *et al.*, "Chemoselective One-Step Purification Method For Peptides Synthesized by the Solid Phase Technique," Proc. Natl. Acad. Sci. USA, 88:6981-6985 (1991).

AT4 Funakoshi, *et al.*, " Affinity Purification Method Using Reversible Biotinylating Reagent For Peptides Synthesized By The Solid-Phase Technique," *J. Chromatog.*, 638:21-27 (1995).

AR5 Garcia-Echeverria, *et al.*, "One The Use of Hydrophobic Probes In The Chromatographic Purification Of Solid-Phase-Synthesized Peptides," J. *Chem. Soc. Chem. Commun.*, 779-780 (1995).

AS5 Hojo, "Development of a Linker With an Enhanced Stability for the Preparation of Peptide Thioesters and Its Application to the Synthesis of a Stable-Isotope-Labelled HU-Type DNA-Binding Protein," *Bull. Chem. Soc. Japan*, 66(9):2700-2706 (1993).

AT5 Hojo, *et al.*, " Protein Synthesis Using S-Alkyl Thioester Of Partially Protected Peptide Segments, Synthesis of DNA-Binding Domain Of c-Myb Protein (142-193)-NH_2," *Bull. Chem. Soc. Japan*, 65:3055-3063 (1992).

AR6 Hojo, *et al.*, " Polypeptide Synthesis Using the S-Alkyl Thioester of a Partially Protected Segment: Synthesis of the DNA-Binding Domain of c-Myb Protein (142-193)-NH_2," *Bull. Chem. Soc. Japan*, 64:111-117 (1991).

AS6 Janssen, "Thiolo, Thiono, and Dithio Acids and Ester," Chapter 15, *The Chemistry of Carboxylic Acids and Esters* (1969).

AT6 Liu, *et al.*, "Peptide Segment Ligation Strategy Without Use Of Protecting Groups," *Proc. Natl. Acad. Sci. USA*, 91:6584-6588 (1994).

AR7 Muramatsu, *et al.*, "Localization of Heparin-Binding, Neurite Outgrowth and Antigenic Regions In Midkine Molecule," *Biochem. And Biophys. Res. Comm.*, 203(2):1131-1139 (1994).

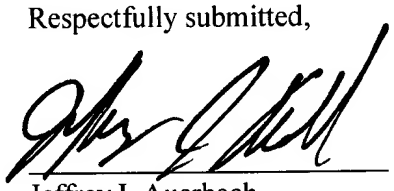
AS7 Rose, *et al.*, "Facile Synthesis Of Homogeneous Artificial Proteins," *J. Am. Chem. Soc.*, 116:30-34 (1994).

AT7 Schnolzer, *et al.*, "Constructing Proteins By Dovetailing Unprotected Synthetic Peptides: Backbone-Engineered HIV Protease," *Science*, 256:221-225 (1992).

AR8 Tam, *et al.*, "Peptide Synthesis Using Unprotected Peptides Through Orthogonal Coupling Methods," *Proc. Natl. Acad. Sci. USA*, 92:12485-12489 (1995).

The Examiner is requested to contact the undersigned immediately in the event that any cited document may be unavailable in order that a replacement copy can be provided.

Respectfully submitted,



Date: 11/15/2001

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PTO 1449 INFORMATION DISCLOSURE STATEMENT	Page 1 of 4	
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U.S. PATENT DOCUMENTS

Examiner's Initial		Patent Number	Date	Name	Class	Sub-Class	Filing Date

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Sub-Class	Trans-lation Yes/No
	AL1	WO 96/34878	11/7/96	PCT	C07K	1/02	NO
	AM1	WO 98/28434	7/2/98	PCT	C12P	21/00	NO

OTHERS, including Author, Title, Date, Pertinent Pages, etc.

	AR1		Aimoto, "Synthesis of Phosphorylated Calmodulin-binding Site of Ca2+/Calmodulin-dependent Protein Kinase IICAMII by a Thioester Method," *Chemical Abstracts*, Vol. 125, No. 1, Abstract No. 11415, (1996).
	AS1		Akaji, *et al.*, "Stiudies On Peptides. CXXVII. Synthesis Of A Tripentacontapeptide With Epidermal Growth Factor Activity," *Chem. Pharma. Bull.* (Tokyo) 33:184-102 (1985).
	AT1		Atherton, *et al.*, "Solid Phase Fragment Condensation – The Problems," *In Innovation and Perspective In Solid Phase Synthesis*, R. Epton, *et al.* Eds., pages 11-25 (1990).
	AR2		Ball, *et al.*, "Affinity Purification Of 101 Residue Rat Cpn 10 Using A Reversibe Biotinylated Probe," *J. Pept. Sci.*, 1:288-294 (1995).
	AS2		Blake, "Total Synthesis Of S-Carbamoylmethyl Bovine Apocytochrome C By Segment Coupling," *Int. J. Pept. Potein Res.*, 27:191-200 (1986).

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	AT2		Canne, *et al.*, "Synthesis Of Versatile Purification Handle For Use With Boc Chemistry Solid Phase Peptide Synthesis," *Tetrahedron Letters*, 38(19):3361-3364 (1997).
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	AS4		Funakoshi, *et al.*, "Chemoselective One-Step Purification Method For Peptides Synthesized by the Solid Phase Technique," Proc. Natl. Acad. Sci. USA, 88:6981-6985 (1991).
	AT4		Funakoshi, *et al.*, " Affinity Purification Method Using Reversible Biotinylating Reagent For Peptides Synthesized By The Solid-Phase Technique," *J. Chromatog.*, 638:21-27 (1995).
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